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23. (NEW) The auto-configuring DSL modem of claim 13, wherein the response cell is received from a host via the internet.

24. (NEW) The auto-configuring DSL modem of claim 13, wherein the response cell is received from a DSLAM (Digital Subscriber Line Multiplexer).

REMARKS

I. Introduction

In response to the Office Action dated June 29, 2005, claims 2, 3, 5-9, and 17-21 have been cancelled, claims 1 and 10-14 have been amended, and 22-24 have been added. Claims 1, 4, 10-16, and 22-24 remain in the application. Re-examination and re-consideration of the application, as amended, is requested.

II. Claim Amendments

Applicant's attorney has made amendments to the claims as indicated above. These amendments were made solely for the purpose of clarifying the language of the claims, and were not required for purposes of patentability.

III. Objections to the Specification

In paragraph [1], the Office Action indicates that on page 7, line 26, the numeral character should be 202 instead of 302. The Applicant thanks the Examiner for noting this error, and the specification has been amended accordingly.

In paragraph [1], the Office Action notes that on page 8, line 14, the word "lines" should be changed to "wires". The Applicant thanks the Examiner for noting this error and has amended the specification accordingly.

The Office Action also notes that the amendments attempted in the RCE filed April 14, 2005 did not consider the amendments entered August 3, 2004. In the amendments provided herein, the Applicant has assumed that the amendments provided with the RCE filed April 14, 2005 were not entered, and instead, based further amendments on the Amendment under 37 C.F.R. 1.111

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that was filed in March of 2005 and discussed in August of 2005. If there is any further confusion regarding these amendments, the Applicant asks that the Examiner call the Applicant's undersigned attorney to resolve any remaining issues.

IV. Non-Art Rejections

In paragraphs [2] and [3], the Office Action rejects claims 1, 4-12, and 13-21 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to the rejection of claims 1 and 4-12, the Applicant respectfully disagrees that the language is indefinite. Claim 1 recites "automatically detecting if a DSL communication circuit exists *on said analog telephone line*" not "on the DSL modem" as described in the Office Action. While the Applicant believes the meaning of this phrase to be clear, claim 1 has been amended to recite that the DSL communication circuit recited above is a remote circuit. That the DSL communication circuit is remote from the modem is clear in the Applicant's specification.

With respect to the rejection of claims 13, 14, 16, 17, and 19-21, the Applicant respectfully traverses. The meaning of the phrase "determining available communication resources" is not confusing. The Office Action appears to ask that the Applicant specify what the communication resources are, however, the Applicant believes that while this might be appropriate for a dependent claim, it is not necessary for the claim to comply with 35 U.S.C. § 112. The Office Action is free, of course, interpret the term "communication resources" broadly and base it's rejection upon that broad interpretation, but it is not appropriate to simply reject the claim because it does not recite specifics examples of communication resources.

Nonetheless, the Applicant has amended claim 13 to recite further details regarding how the available communication resources are determined. If the Examiner has further questions or objections to the clarity of these claims, the Applicant respectfully requests that such objections be resolved in a telephone conference so that the nature of this rejection can be more fully explained.

V. The Cited References and the Subject Invention

A. The Burd Reference

U.S. Patent No. 6,874,041, issued March 29, 2005 to Burd et al. discloses an automatic configuration of communication device input or output terminal. A method and apparatus is

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disclosed for the automatic configuration of a communication input /output port or terminal on a communication device. The communication device comprises one or more input/output ports or terminals, one or more switching devices, some form of switch device controller, and one or more communication circuitry, configured to facilitate communication with a remotely located communication terminal. The one or more input/output ports or terminals of the communication device connect to one or more communication cables or wires configured to transfer data with the remotely located communication terminal. In one configuration the communication cables comprise two twisted pair wires as is commonly installed for telephone communication and utilized for DSL communication service. To achieve automatic configuration, the switching device is initially set in a default position connecting the communication circuitry to at least one of the communication cables. Thereafter, the communication circuitry monitors for enablement of the communication service on the communication cables connected to the communication circuitry. If the service is detected the process is complete. If the communication circuitry does not detect the communication service, the switch controller forces the switching device to connect the communication circuitry to another of the communication cables. This process repeats. Alternative embodiments include communication circuitry configured to support more than one communication standard and communication devices incorporating a low pass filter to achieve pass-through voice communication.

B. The Lo Reference

U.S. Patent Publication No. 2002/0026504, published February 28, 2002 to Lo discloses Customer premises equipment autoconfiguration. A system and method for automatically configuring customer premises equipment, the system including a search module configured to select a set of configuration values and to create a discover packet including the set of configuration values. The discover packet is transmitted to attempt a connection with a network access device. If no response packet is received from the network access device, the search module selects another set of configuration values and creates another discover packet. If a response packet is received from the network access device, the search module stores the correct configuration values from the header of the response packet into a configuration register. A memory stores a subset of all possible configuration values including commonly used values.

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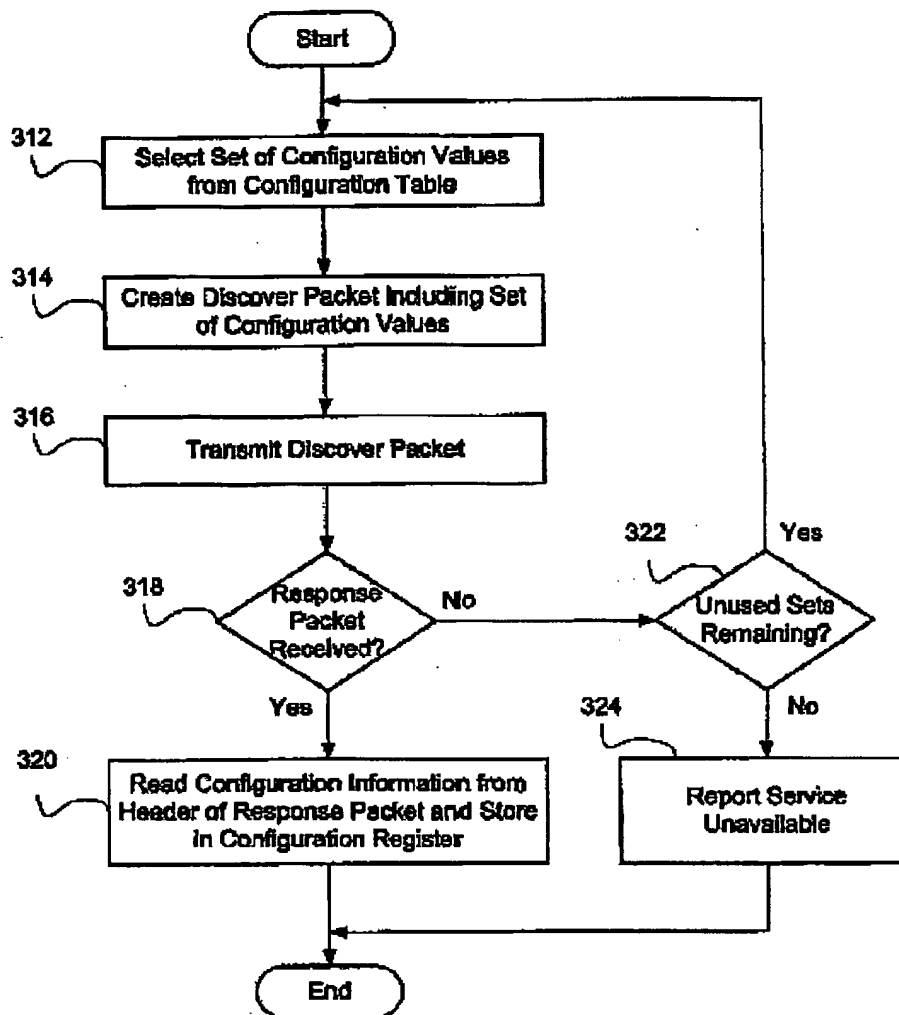
VI. Office Action Prior Art Rejections

The Office Action rejected claims 1 and 4 under 35 U.S.C. §102(e) as unpatentable over Burd et al. (Burd), U.S. Patent No. 6,874,041, and claims 5-21 under 35 U.S.C. § 103(a) as unpatentable over Burd in view of U.S. Patent Publication 2002/0026504 (Lo). The Applicant has amended claim 1, and based upon such amendment, traverses these rejections.

Claim 1 has been amended to recite further details regarding how the virtual communication route is identified. As claimed, this is accomplished by transmitting every VPI/VCI described in a list stored in the DSL modem, and after transmitting every such VPI/VCI, acquiring the first cell received in response and using the VPI/VCI of the response cell to communicate between the DSL modem and the communications network.

Neither Burd nor Lo disclose these features. Lo discloses the repetitive transmission of different VPI/VCI pairs until a response packet is received, then using the VPI/VCI associated with that packet for further communications, as shown in the figure below:

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However, it does not disclose the notion of transmitting *all* of the VPI/VCI pairs on the list, then accepting and using the first one that is returned, as described in claim 1. Lo, in fact, teaches away from this technique.

This distinction provides operational advantages over the systems disclosed in Burd and Lo, and solves problems not recognized by Burd and Lo. Specifically, the Applicant's bulk transmission of all VPI/VCI pairs permits and using the first that is received in return can be completed more quickly than the technique taught by Lo (in which each VPI/VCI pair are transmitted and individually evaluated, one at a time), because the DSL modem need not wait for a response to each transmission. Further, the Applicants' technique essentially implements a "race" between VPI/VCI

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pairs to determine which was the quickest in responding to the ping. This allows selection of the most responsive of the VPI/VCI pairs and channels for further communications.

VII. Dependent Claims

Dependent claims 4, 10-12, and 14-16 incorporate the limitations of their related independent claims, and are therefore patentable on this basis. In addition, these claims recite novel elements even more remote from the cited references. Accordingly, the Applicants respectfully request that these claims be allowed as well.

VIII. New Claims

New Claims 22-24 are presented for the first time in this Amendment. For the reasons described above, new claims 22-24 are patentable over the prior art of record, and the Applicants respectfully request the allowance of these claims as well.

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IX. Conclusion

In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited. Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicant's undersigned attorney.

Respectfully submitted,

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